

MAJOR SYSTEM ACQUISITIONS PROCESS

(A-109)

MAJOR SYSTEM - COMBINATION OF ELEMENTS (HARDWARE, SOFTWARE, FACILITIES, AND SERVICES) THAT FUNCTION TOGETHER TO PRODUCE CAPABILITIES REQUIRED TO FULFILL A MISSION NEED

SYSTEM ACQUISITION PROCESS - SEQUENCE OF ACTIVITIES BEGINNING WITH DOCUMENTATION OF MISSION NEED AND ENDING WITH INTRODUCTION OF MAJOR SYSTEM INTO OPERATIONAL USE OR OTHERWISE SUCCESSFUL ACHIEVEMENT OF PROGRAM OBJECTIVES

A-109

- o RECOGNIZED MAJOR SYSTEM ACQUISITION
  - o IS A CRITICAL AND EXPENSIVE ACTIVITY
  - o IMPACTS TECHNOLOGY, NATION'S ECONOMIC/FISCAL POLICIES, ACCOMPLISHMENT OF AGENCY MISSION
- o ESTABLISHED POLICIES AND OBJECTIVES FOR PLANNING AND MANAGEMENT OF MAJOR SYSTEM ACQUISITIONS
- o CHARACTERIZED BY
  - o TIME-PHASED PROCESS
  - o SYSTEMATIC AND DISCIPLINED APPROACH

A-109 GENERAL POLICIES

- o EXPRESS NEEDS IN MISSION TERMS TO ENCOURAGE INNOVATION AND COMPETITION OF ALTERNATE SYSTEM DESIGN CONCEPTS
- o PLACE EMPHASIS ON INITIAL ACTIVITIES OF ACQUISITION PROCESS TO ALLOW COMPETITIVE EXPLORATION OF ALTERNATIVE CONCEPTS
- o COMMUNICATE WITH CONGRESS EARLY IN THE ACQUISITION PROCESS
- o ESTABLISH CLEAR LINES OF AUTHORITY, RESPONSIBILITY, ACCOUNTABILITY
- o ENSURE APPROPRIATE MANAGEMENT-LEVEL INVOLVEMENT IN DECISIONS/AGENCY HEAD APPROVAL AT KEY DECISION POINTS
- o RELY ON PRIVATE INDUSTRY

## A-109 OBJECTIVES

- o ENSURE MAJOR SYSTEM FULFILLS MISSION NEED, OPERATES EFFECTIVELY, JUSTIFIES ALLOCATION OF LIMITED AGENCY RESOURCES
- o ESTABLISH INTEGRATED APPROACH FOR BUDGETING, CONTRACTING, MANAGING PROGRAMS
- o ENSURE PROCEDURES EMPLOYED PROVIDE APPROPRIATE TRADE-OFFS
- o MAINTAIN COMPETITION THROUGHOUT ACQUISITION PROCESS WHEREVER ECONOMICALLY FEASIBLE AND BENEFICIAL

## NMI 7100.14B

- o IMPLEMENTS POLICIES AND OBJECTIVES OF A-109
- o APPLIES TO ALL PROGRAMS DESIGNATED AS MAJOR SYSTEM ACQUISITIONS
  - o ESTIMATED CUMULATIVE ACQUISITION COST OF \$100M
  - o SIGNIFICANTLY NEW OR IMPROVED CAPABILITY DIRECTED AT/CRITICAL TO FULFILLING AGENCY MISSION
  - o ACQUISITION WARRANTING SPECIAL MANAGEMENT ATTENTION

NMI 7100.14B

- o RECOGNIZES 2 TYPES OF SYSTEM DESIGN CONCEPT COMPETITION
  - o CLASS 1 - ALTERNATIVE SYSTEM DESIGN CONCEPT (PREFERRED)  
COMPETITION SEEKING ALTERNATIVE METHODS OF ACHIEVING REQUIRED CAPABILITY
  - o CLASS 2 - SINGLE SYSTEM DESIGN CONCEPT  
COMPETITION SEEKING PROPOSALS FOR PREDETERMINED SINGLE DESIGN CONCEPT TO ACHIEVE REQUIRED CAPABILITY
- o BOTH TYPES ACCOMPLISHED UNDER FULL AND OPEN COMPETITION UNLESS APPROPRIATELY JUSTIFIED

MAJOR SYSTEM ACQUISITION PROGRAM PHASES

PHASE A - PRELIMINARY ANALYSIS

PHASE B - DEFINITION

PHASE C/D - DESIGN, FULL-SCALE DEVELOPMENT, OPERATION

#### PHASE A - PRELIMINARY ANALYSIS

- o PRIMARILY AN IN-HOUSE EFFORT
- o INVOLVES ANALYSIS OF ALTERNATIVE OVERALL PROJECT CONCEPTS FOR ACCOMPLISHING MISSION
- o RESULTS IN STUDY DOCUMENTATION DETAILING FEASIBLE CONCEPT(S) SUITABLE FOR DETAILED STUDY IN PHASE B

#### PHASE B - DEFINITION

- o MAJORITY OF EFFORT CONTRACTED
- o INVOLVES DETAILED STUDY/COMPARATIVE ANALYSIS OF PHASE A CONCEPTS
- o TECHNOLOGY, DEVELOPMENT SUPPORT REQUIREMENTS DEVELOPED
- o TRADE-OFF ANALYSES ACCOMPLISHED
- o RESULTS IN PRELIMINARY DESIGNS AND SPECS

PHASE C/D - DESIGN, FULL-SCALE DEVELOPMENT, OPERATION

- o EFFORT ACCOMPLISHED BY CONTRACT
- o INVOLVES DETAILED DEFINITION, HARDWARE DESIGN/DEVELOPMENT
- o RESULTS IN ACTUAL MANUFACTURE, CHECKOUT, OPERATION, EVALUATION OF MAJOR SYSTEM

ADMINISTRATOR APPROVAL OF KEY DECISIONS

- (1) MISSION NEED STATEMENT (MNS)
- (2) SELECTION OF DESIGN CONCEPTS

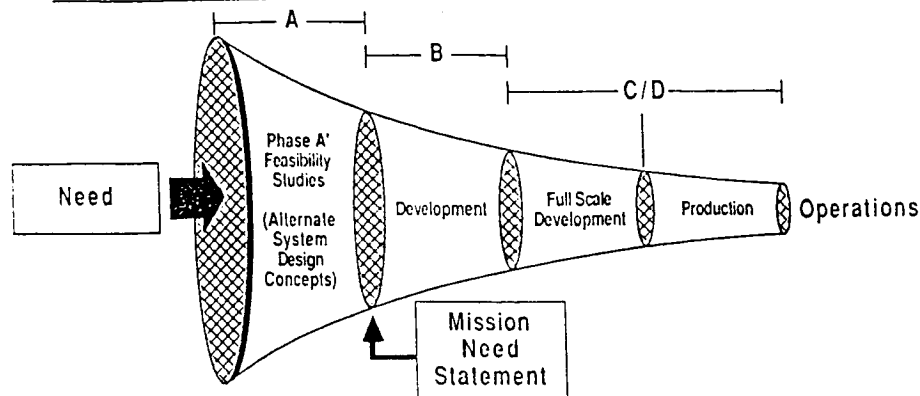
RESULT IN  
APPROVAL TO PROCEED WITH PHASE B

- (3) REAFFIRMATION OF MNS

RESULT IN  
COMMITMENT OF AGENCY TO FULL-SCALE DEVELOPMENT

# **NASA NMI 7100.14B ACQUISITION PROCESS (OMB Circular A-109)**

## **PROGRAM PHASES**



## **Administrator's Approvals**

## **When**

## **Rationale**

- |   |   |   |   |   |
|---|---|---|---|---|
| • Mission Need Statement                              | → | Prior to Phase B  | → | • Identify Need, Priority, and Resources                  |
| • Approves Selection of System Design Concepts        | → |   | → | • Selects System Design Concepts to be Pursued in Phase B |
| • Approval to Proceed/Reaffirm Mission Need Statement | → | Prior to Phase C/D and Prior to Separate Phase D, if Applicable | → | • Reverify Mission Need and Value to Agency               |

## **PROCUREMENT PROCESS**

- o PHASE B AND PHASE C/D CONDUCTED UNDER FULL AND OPEN COMPETITION UNLESS JUSTIFIED
- o PROCUREMENTS CONDUCTED IN ACCORDANCE WITH SOURCE EVALUATION BOARD HANDBOOK

SOLICITATION FOR PHASE B - CLASS 1 TYPE

- o OUTLINES BROAD ALTERNATIVE SYSTEM DESIGN CONCEPTS SELECTED
- o DEFINED IN TERMS OF MISSION NEEDS, SCHEDULE OBJECTIVES, COST OBJECTIVES, OPERATING CONSTRAINTS
- o UNCONSTRAINED BY PREDETERMINED CONFIGURATIONS, SPECS, OR EQUIPMENT APPROACHES TO
- o GAIN BENEFITS OF INDUSTRY INNOVATION AND COMPETITION

SOLICITATION FOR PHASE B - CLASS 2 TYPE

- o SPECIFIES SINGLE CONCEPT TO BE PURSUED
- o NO ALTERNATIVE CONCEPTS REQUESTED/REQUIRED
- o NEED EXPLAINED WITHIN MISSION TERMS, SCHEDULE OBJECTIVES, AND OPERATING CONSTRAINTS

(CONSIDERED ONLY WHEN JUSTIFIED BY URGENCY OF NEED OR PHYSICAL/FINANCIAL IMPRACTICALITY OF DEMONSTRATING ALTERNATIVES)



PHASE B SOLICITATIONS (CLASS 1 AND CLASS 2)

- o SOLICIT BROAD BASE OF QUALIFIED SOURCES
- o INFORM OFFERORS FOLLOW-ON RFP'S WILL BE SENT
  - o WITHOUT REQUEST TO OFFERORS SELECTED FOR PHASE B WHO SUCCESSFULLY PROVE THEIR DESIGN CONCEPTS
  - o UPON REQUEST TO OTHER POTENTIAL OFFERORS
- o NOTIFY OFFERORS OF POSSIBILITY THAT ALL PHASE B CONCEPT STUDY RESULTS (MINUS PROPRIETARY DATA) MAY BE MADE AVAILABLE FOR OPEN COMPETITION FOR CONTINUED CONCEPT STUDIES OR FOR PHASE C/D

IF

NASA DETERMINES CONCEPTS PROPOSED UNDER PHASE B CONTRACTS DO NOT ADEQUATELY FULFILL MISSION NEED OBJECTIVES

- o PROVIDE, TO EXTENT KNOWN, OPERATIONAL TEST CONDITIONS, MISSION PERFORMANCE CRITERIA, LIFE CYCLE COST FACTORS TO BE USED IN EVALUATION AND SELECTION OF SYSTEMS FOR PHASE C/D
- o SOLICITATION RESULTS IN PARALLEL, SHORT-TERM, FIXED-PRICE CONTRACTS

DISSEMINATION/EXCHANGE OF INFO UNDER PHASE B

- o RESULTS OF PRIOR STUDIES MADE AVAILABLE TO POTENTIAL OFFERORS
- o DISCLOSURE/CORRECTION OF WEAKNESSES AFTER SELECTION OF A PHASE B CONTRACTOR PERMITTED (BUT AVOID TECHNICAL LEVELING)
- o TECHNICAL TRANSFUSION/CROSS-FERTILIZATION NORMALLY PROHIBITED

SOLICITATIONS FOR PHASE C/D

STRUCTURED TO ELICIT FOR SEB'S EVALUATION AND SSO'S CONSIDERATION DATA SUCH AS:

- o SYSTEM CONCEPT PERFORMANCE MEASURED AGAINST NEED AND OBJECTIVES
- o RISKS AND POTENTIAL RESOLUTION
- o ESTIMATED ACQUISITION AND OWNERSHIP COSTS
- o CONTRACTOR'S DEMONSTRATED MANAGEMENT, FINANCIAL, AND TECHNICAL CAPABILITIES TO MEET PROGRAM OBJECTIVES

### SUMMARY

- o COMPETITIVE A-109 PROCESS MAKES SENSE
- o PROVIDES
  - o SYSTEMATIC, INTEGRATED MANAGEMENT APPROACH
  - o APPROPRIATE MANAGEMENT-LEVEL INVOLVEMENT
  - o INNOVATION AND "BEST IDEAS" FROM PRIVATE SECTOR IN SATISFYING MISSION NEEDS